



Mont Geneve
Château Chablaine
Genève



The same plant, different soil.

1894

up3pneu162-I

Feb. 2nd Walked in the direction of Rydal Lake. Noticed yellow crocuses growing out of doors for the first time this year. & picked some of the budding ash-twigs.

Feb. 3rd. Noticed what a number of different mosses grow here. Some brown like dead leaves, some like miniature pine-trees, some like ferns & some like pale grey fairy trumpets. The walls were in one place covered with the creeping lead-flax.

Feb. 5th Noticed the rocks were covered with pieces of slate. Did not know they were all made of slate. The hills opposite Lough Rig were looking lovely in the sunshine with the shadow of the Lough Rigq falling upon them.

Feb. 6th A lovely day - very sunny at intervals with heavy clouds floating about, but no rain. We walked to the Skelwith Falls which were very full owing to the rain. I noticed how they make use here of big slabs of stone instead of gate posts by boring holes in the sides & inserting poles in them. It is a good idea as they can be easily removed when necessary.

2/14/1916

2. The Catkins of the Larch were very conspicuous. Some of them pretty tinged with red, others very long. The lichen looked especially beautiful growing among the moss on the stone walls.

I was surprised to find a red oak-gall on an oak leaf remaining from last year. One piece of rock that we passed reminded me of the caves on the Guernsey coast - it was streaked with red & yellow & the water was dripping from it; the little streams trickling from the mountains to join the Brathay river, & with ferns growing by the sides of them also made me think of Guernsey. I was glad to see old plants of Heather, fox-gloves & the hills-strawberry as a promise of what the spring & summer will bring. The approach to the Falls is very picturesque & the Falls themselves grand.

Feb 9th & 12th Too wet to go out.

Feb. 13th I noticed the young willows about two inches above the ground - The foxglove plants had grown as large as a full-sized saucer & the fields were covered with the first tiny leaves of the Buttercup. They are so much cut into that they can easily be distinguished from the grass & from the smooth even-edged daisy leaf which is generally to be found close by.

2/15/1916 3

Feb. 14th Very cold but fine. I saw the primrose buds just coming out.

Feb. 16th A pouring wet day. Went to Stack Chu Falls, which were very full. Noticed the walls of the rocks were covered with Saxifrage, Sanicle & Wood-sorrel - all of them just putting forth their first leaves.

Feb. 19th Fine & cold. The haws on the road off to Rydal full of spring buds. The fat red buds of the linde were beginning to grow thinner & show green at the top. Noticed how only one side of the stone walls was covered with moss - showing that the wind was the north.

Feb. 27th Lovely Spring day. The schmuck leaves were beginning to uncurl; the laser penwinckle was blossoming in the Brathay churchyard, & for the first time I saw a full opened spray of laurestinus - but then that has been out for a month or more.

March 6th The weather has been so wet it has been impossible to work out except with a macintosh & umbrella which are not favorable to finding specimens. but though it was very dull today many interesting things were pointed out to me. I saw the difference between the Weymouth & Scotch pine. The latter having spires growing in clusters of two. the former in clusters of five or seven.

I saw the bitter-cress (thail-cress, rus. leaved Saxifrage with its little tiny white star of a flower.

The black-berrid wig grows in quantities on the side of the Bonitay bridge. We gathered what we could bear of it.

I was shown a wild cherry tree which looked when in bud very like the oak except that the contour of the bud is different. The tulip tree is planted alternately with the lime just beyond Kelsick House. It can easily be recognized by its angular branches and twigs.

The American red currant was already flowering in somebody's garden. I never remember seeing it flower so early in spring.

The wild sage is coming well into leaf now, it is so much like the cultivated plant that it is easy to recognize, & the Japonica's black stem is buttoned all over with its close bunches of red flowers.

March 7th The Stock Shyll Falls were looking lovely today but not quite so free as they have been. I went right down to the bottom of the steps because so many plants grow on the sheltered bank. The golden Saxifrage was flowering. It has funny little insignificant flowers, & the garlic leaves were springing up everywhere with Crane's lily & wood sanicle but none of these are flowering yet.

Mar: 12, 13th. Dull cold days - noticed no fresh flowers.

March 14th A lovely spring day; the students came in from their walks with their hands full of Celandine & Coel's foot.

The first Anemone & wild primrose were found also.

The week end of the students saw the lupin in blossom.



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Mar 17 to 20. A week of lovely weather. One of the students brought home branches of larch bearing the red cone shaped flower. I was taken to see the fir tree that is growing vertically on the branch of an older tree. It looks very curious & has prodigiously seeded there. It is on the Rydal road. We knelt upon the wall & looked over Rydal lake for some time, & though so early in the year it was almost as warm as June.

18th Palm Sunday. The palm was blossoming very where the students came in with their hands full.

20th & 21st Both beautiful days. I did not walk far.

22nd Walked by the Rothay & sat upon the stone wall for a long time. The air was full of spring sounds & the colours on the mountains were beautifully varied.

23rd Good Friday. For the first time I saw Nab Scar from the opposite side of Rydal Lake. It is much finer from that point. The wild ducks in the lake were very excited. We were interested in hearing the echo of the coach horn on the bridge.

24th Every house I noticed as I walked up the street in the sunset had daffodils in the windows for Easter Sunday. The hyacinths in the Hill's house were all drooping as if their day were over.

25th Easter Sunday. A most jubilant day. The early service was very beautiful; the every grave in the churchyard had upon it a cross of daffodils. The whole air seemed to be full of them. I received the first orange blossom from the Florida grove.

6. March 27. Drove to Coniston Lake. The view of the bare rugged mountains very grand. Saw quantities of larches with red flowers. Walked from Waterhead to Brantwood. Picked violets & primroses by Ruskin's house, & the flower of the maple. Came home by the Langdale Pike & Yarrow Valley. Saw the famous yew tree which is many hundred years old. Sometimes the sides of the mountains were covered with juniper bushes.

March 28th 29th. Went over Longrigg in search of the Tarn and daffodils. Found the Stag's horn Moss creeping on the top & lovely bunches of larch with the tiny red cones. Near a small water fall the Hard Fern was growing, & spleenwort.

March 30th. Found Liverwort near Fox How and the Bird Cherry tree near the Rothay. It is has very different appearance from the Wild Cherry. The leaves of the yellow poppy have grown quite large.

April 2nd. The yellow poppy plants are in bud & the maple

April 4th flowering on the Windermere road. Some of the students have brought in the Wild Cherry in full flowers & the ash has burst into little clumps of dark purple flowers.

April 5th. The Bitter ~~grass~~ in flowers - a little tiny white flowers. The lady's mantle plant developing - growing in flower, opening in bud.

osier in flower. Bramble has been in leaf some days.

April 6th. The wild plum was brought indoors in full flower, & the wild raspberry. The stitchwort was found at Lowood & the toothwort growing in a waste place on the Rydal Road.



Small
spleenwort.

When very plentiful (Penny farthing)



Cruciger in two kinds of spruce with new cones - a handful of Marsh Marigolds & the sycamore in flower - & the Willow in seed. The night-blue with Keys sitting tight on the stem is very pretty just now. The larches are growing much prettier & may always be found on the top of very available hillock.

April 8th. Found the garlic well in bud. Ash in full flower.

April 9th. The Bilberry in full flower on the banks of Stock Ghyll. Crossed the stream & found quantities of wild cherry & anemones on the other side. All the fern plants were putting out new

fronds. April 10th & 11th. There were quantities of clay-violets growing in between the stones on the Rydal Road which the students amused me by picking - They looked &

much prettier growing.

April 12th. A pouring wet day. We saw a white flower with little brown leaves in Canon Bill's garden.

April 13th. The maple in flower & leaf was

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April 14th Very wet all the afternoon
April 15th Found the leaves of the Columbine
on the way to the uack.

April 16th Beech in flower - & Nyel
the seedling. The Muschatel found
on the way to Stock Pyll.

April 17th & 18th Herb Robert, & Herb Paris
in flower. The wood-saville in bud &
the wood-ruff in flower. Melick-grass
Blue-bell in flower. Beech-fern &
oak-fern in fronds. The Beech-fern
has the two last frondlets turned
down in a different direction from the
rest. The oak fern curls its fronds up
into three little balls before coming out.

The leaf bears great resemblance to the oak.
The white-milk-wort & bitter-witch were
also in flower. All these were found in Lowood
with quantities of primroses.

April 19th. Primroses everywhere.

"Welcome pale primrose, starting up between
Dead matted leaves of oak & ash."

I walked to Farmer by the terrace
above Wordsworth's house. The view all the
way was charming. The patches of larch
on the opposite side of Rydal are almost
too bright a spot in the landscape.
Wordsworth was not fond of these trees &
has criticised them very severely.

The Bracken was putting forth its fronds
all over the mountains, indicating the
poverty of the soil; they are early this

June's Eyes (Hats)



green on account of the warm weather.

Bracken does not like the frost; it is
that which turns it brown & red
in the autumn. We found the delicate
Parsley fern, growing freely in the crevices
of the stones. The oak-tree too was
just beginning to flower.

"These green-robed squalors of mighty woods"
Keats.

April 20th. Two bumble bees & two white
butterflies.

April 21st Went to Lowood. The weather lovely.
The wood is carpeted with scurvy violets and
primroses. We found several orchids & the yellow loosestrife

April 23rd The East wind was very cold - walked by Windermere
& tried to reach the bird cherry blossoms. The garlick is
fully out everywhere. The Broom has been seen in
flower for some days now.

"Twas that delightful season, when the Broom,
Full flowered and visible on every steep
Along the copes runs in veins of gold" Wordsworth.
It is very early this year. Generally I do not find it until
late in May. There is very little of Colewort's
"Never bloomed Funge" here.

April 26th Very cold & windy on the way to Lowood - very warm
coming back. The Bugle found the way to Troubeck.

The Polinella lepus & the Cuckoo flower also brought
in. Cuckoo Pint, or Arum or Lord's & Lady's has been
flowering for some time but I only saw it today.

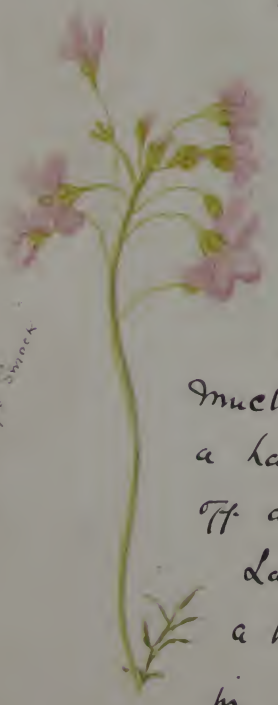
Someone heard the Cuckoo; but I have only distinguished
cawks at present. Water Aven was brought in today
but it has been flowering here before. Moss's tails
are springing up everywhere - but I do not like them.

10 The Seape-press is flowering among the marsh mangroves on the borders of the lake & we picked great bunches of Crab-apple today.

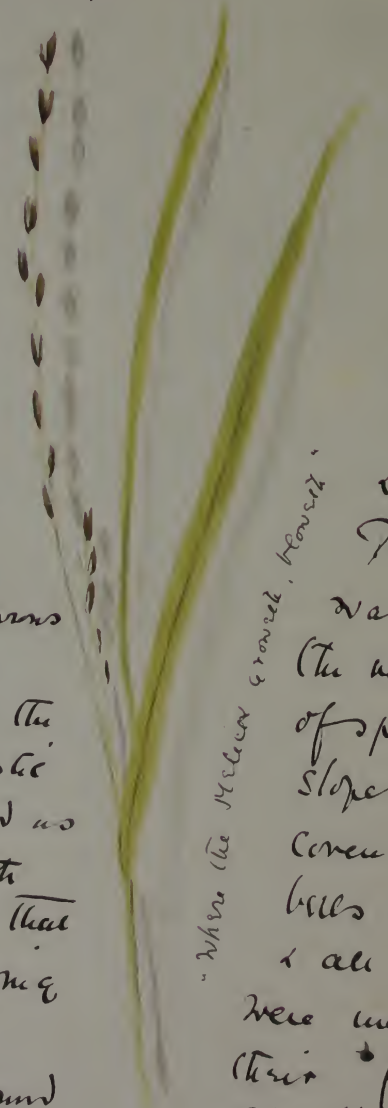
April 25th 26th 27th. Fine days but a very cold East wind.

The beautiful yellow globe flowers are growing in clumps on the stones in the meadows & by the borders of the streams & yellow Welsh poppies are opening by the road-side. We found a pretty red & yellow oak apple -

Apr May 1st. Today we were startled by hearing a loud twittering among the sparrows in a lime tree on the way to the Noak. A rustic ran up behind us & told us with much excitement that a hawk was carrying off a young bird. Later on we found a black-bird's nest in a very low shrub in the Noak with one egg.



Cuckoo flowers or Lady's Smock



When the yellow gromwell flowers

Which we did not take, but I intend to catch it. The Noak was breathing the very essence of spring. The slopes were covered with blue-bells & violets & all the ferns were unfolding their fronds. The Hyacinth did not at all keep up the reputation which one of the

poets has given it; "The unblanching Hyacinth that weeps All night & never lifts an eye all day." but it may have been the effect of the sunshine & the first of May.

May 2nd A very wet day.

The Lady's mantle in flower. May 3rd Found the Water Anemone on the way to Inkpen's Crag. We found quantities of Broom in flower. but as it was very cold & raining pouring I did not connect it with what Wordsworth has said "Twas that delightful season, when the Broom,



Ulex Europaea
"approach it not For every flower has a troop of swordsmen drawn to defend it" Thymus pinguifolius with golden basket flowers

Full flowered & visible on every steep. Along the cypress runs in veins of gold. The Cornus sanguinea has been out for many days & is beginning to carpet the banks.

May 4th Sunday. went to church in Macintoshes.

May 5th 6th Showery days. Nothing new was brought in.

May 7th. The pretty pink brist found on the Whidener road, & the oak-trees are covered with currant galls - last year all the galls were spangled - Lubbock pointed out their attestation of galls in the oak.

May 8th 9th. Still showery but very fine in the afternoon. Quantities of copper beech, Crab-apple-blossom & marsh mangroves - a tall yellow cross called Winter cross. because the branches are used for a vegetable during the winter. Red Sorrel in flower & the Roman tree

May 10th. We saw so many black sheep were out on the way to the Kirkstone Pass, because of the rainy weather. Few flowers grow on that path, but now again we found patches of cuckoo flower & marsh marigolds. Some of the students brought in the Mountain Pansy, Mountain Primrose, as well as the Red and Purple Torrel.

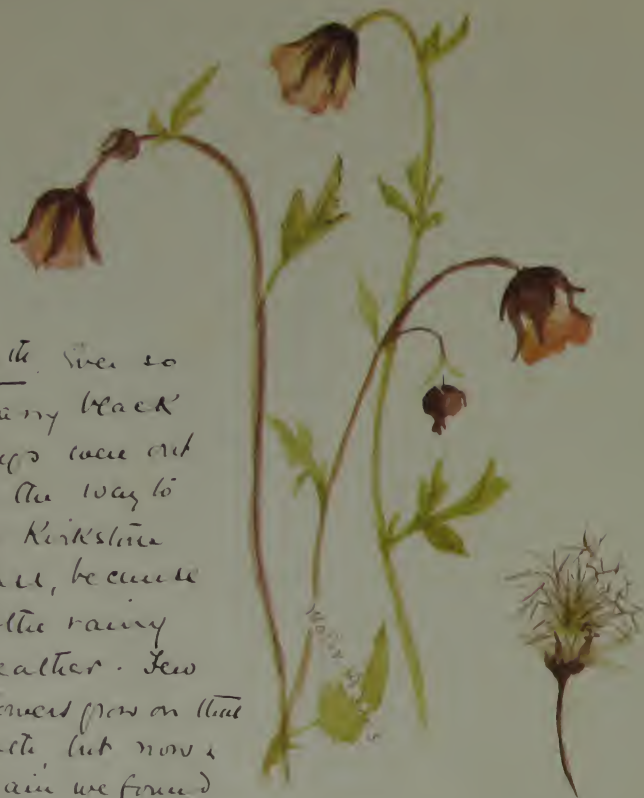
May 12th Whit Saturday. A lovely day, but very windy. Walked by Undermure but did not go far enough to find any specimens.

May 13th Sunday. Very bright in the morning, but cloudy in the afternoon. We found quantities of stitch wort, violet grass in the little copse by Undermure.

May 14th. A pouring wet day. We were too busy to go out for a walk even if it had been fine.

May 15th. We trespassed in some fields opposite Springfield & found the clover in flower. There is a nice knoll at the top but there were people there so we could not walk on it.

May 16th Very showery & windy. We all went out in macintoshes again.



May 11th The blue-bells were growing in masses at Stock phyll & the crocus foot was in seed. The mare's tail was in flower and the Water Avena were growing in big clusters by the banks of the stream & the tufted grass was very abundant. The cow-wheat was found in flower for the first time.



Behind Springfield we found some knolls perfectly covered with wild hyacinths. A little way off they looked like a shadowy blue cloud. The bare rocks peeping through the soil; the bright green of the ferns beneath & of the oaks overhead made a lovely picture. Some of the students brought in the Yellow Ratite and the Brook-Lime found on the way to Braithay church. The Scotch Pine is in flower. It has stiff yellowish flowers that already show they are going to turn into cones. There are generally in pairs above the shoots of the year. It is sometimes spoken of as "the gloomy Pine" in company with "the bonnie birch."

"The Pine is King of Scottish Woods
And the queen - ah! who is she?
The fairest form the forest knows -
The bonnie birchen tree."

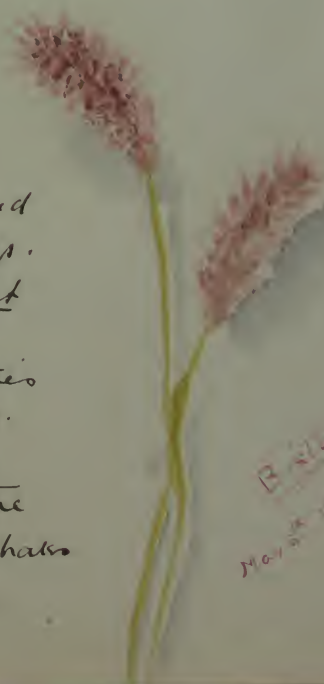
May 17th.

A lovely spring day. We went to the top of Long Rigg & found over 50 many things.

First the fragrant Mountain Fern growing in quantities near the stream.

It is so called on account of the sweet odour it exhales when crushed.

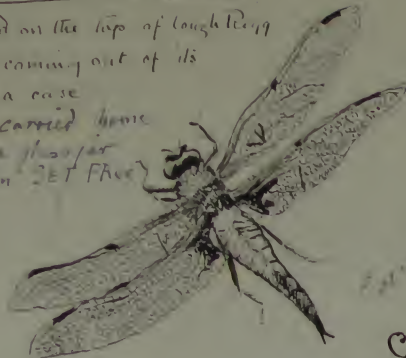
Handwritten notes:
Horse-Mare's Tail
Stock Phyll
May 11th
Lynceum
Lynceum



Handwritten notes:
B. 11
May 11th

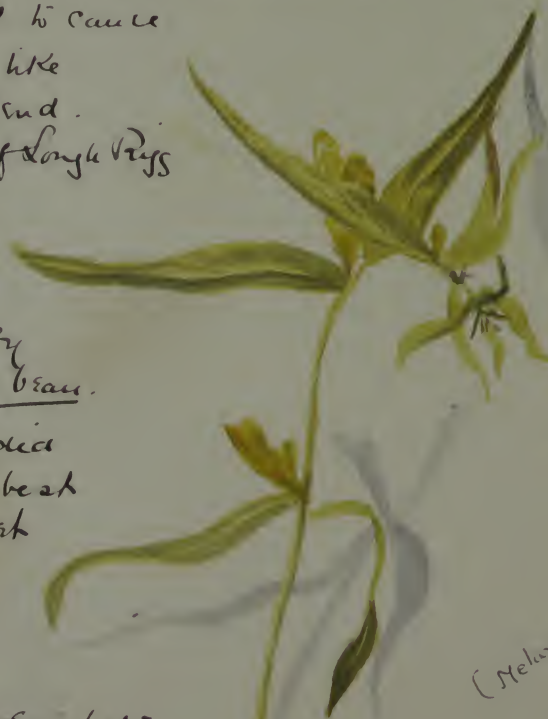
Cordulegaster annulatus

found on the top of Longley
just coming out of its
chrysalis case
and carried home
in a glass jar
then SET FREE



A very little farther we found
The little mountain primrose
& the Butter wort (*Pinquicula vulgaris*)
The leaves grow in a spreading
fist, & are incurved at the edges
& covered with a greasy matter.
As they are yellowish in colour
this may account for its name.

Growing in the same place was the
little pink mountain Primrose & quantities of
louse wort. We found the sun-dew in the same boggy
ground - but it is very small at present. (*Drosera rotundifolia*)
Darwin found that a fragment of cotton weighing $\frac{1}{8000}$ lb of cotton
was sufficient to cause
the red hairs like
tentacles to bend.
On the top of Longley
we found a
little tam
free of the
puits.



(*Melampyrum pratense*)

of the House of
Education.
We thought of
piling up the
holes with some

Con. wheat.
May 18th

fluffy
Bog grass.
We did
our best
to get

some, but
the pond was
free of tones
with deep holes between
to form the bog. bean
in remain & flourish
secure from the raids

Leaf of Sundew
closing over a fly

The Melancholy Hypocrite
Ambrosia near 1844

"There may be in this cup a spider steeped"
- Shakespeare



of the loose stones
that were lying near
but the first one that
we lifted caused
such fearful devas-
tation among the ants
beneath that we had
not the heart to try
any others. The ants
were the same from kind
& at once began scurrying

about seizing their white eggs with
their tiny little pincers & pushing them
later & later out of sight. Sometimes
they went a long way farther than
was necessary, tumbling & pulling
one in front & one behind - occasionally
I am bound to say, pulling different
ways, but never ceasing from their

work, until every little white larva was safely
hidden from our view. I wish we could have followed
them farther. After that we made no more investi-
gations but came down the mountain - only stopping
to gather crab-apple blossoms & to notice the
male & lady fern - & blue & white milk-wort

May 18th A lovely day - I went towards Donkey Bay
& gathered many flowers, but found nothing
fresh.

May 19th. Went out on the top of Lough Rigg above
Croft. Miss Fletcher taught me the names
of the mountains in the direction of the
Langdales. We found quantities of
pasley fern growing in
bright but heavy green masses.

May 20th Sunday - Snowy in
the afternoon.

May 21st Still very cold -

The pink columbine found wild
in Lowood

May 22nd. Went for a row on the
lake & saw a heron flying from
one shore to the other.

May 23rd The white hyle found.

May 26th Very showery & cold -

May 27th-28th Good King Hal, a

green plant with a tall spike growing on waste ground.

May 31st A delicious warm day. We went on the
lake in the afternoon because it was the
day before the boating, but I remember now
that was last week. Nothing particular
was brought in.

June 1st. Such a beautiful day. We steamed
to Lake side by the 8.35 - most thoroughly
enjoying the view. The trees on the opposite
side of the lake are like Thames trees.



Small pink flowers

We were rather cold on the steamer & I was
glad when

on a played
hymn to Mr.

Abbey &
were

flat
It is

a brass band came
the German national
We went to Farness

train, & some of us
delighted to see

Country again.

more than six
months now, since
I have seen the horizon.

We thoroughly enjoyed
the Abbey, but I

must only mention

the plants we found
in a Natural History
diary. They were -

Hawk-weed, Belladonna -

Cross. wort - (Yellow Bed. Straw)

Sea. pink, White. Vetch -

A. eyed Daisy, Hand orchis

Large flowering Bitar. cross

June 2nd

A very wet day. We went to
Stock Ghyll. It was more lovely than ever
after the rain & the ferns had grown tremendously
since I last went.



What about
1917
and
1939

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June 3rd Still pouring - I went half way up to
Dontigns Crag to find water avens. We did
not find any - because I went the wrong way
but the mists rolling down the mountains
were beautiful. In the evening we went to
Brathay church. It is covered on the outside
with black ^{slate} wort. There is so much & it spreads
its arms over the stones in such a way that
it looks almost like a green star-fish -
There were still some globe-flowers out.

June 4th I went with my mother to Rydal Lake.
It was very peaceful & subdued - but I prefer
it in the sunshine.

June 5th Very wet. We went a little way up Lough
Rigg, the swamps were almost ponds & the
brooks & springs were in a tremendous hurry.
They have so much work to do this weather.

June 6th. We all had a half
holiday because it was such
a lovely day. I drove with my
mother to Eller-Water village.
A quaint little place built
on the shores of the tiny lake
& within half a mile of the
Xandale Pikes. We stopped
at Skelwith Force on the way
back; the left bank was
covered with globe flowers which
were as usual out of reach.
I could only find the ragwort



11p21p1120162 19



Dragon fly
formed as coming
from its Pupa.
Call.

on the right bank -

June 7th Scrambled about in the wood-forest
no fresh specimens but surveyed the bees
humorously. Some the students this week
formed two new kinds of wild roses.

June 8th Went on the Lake -

June 9th Went to Grasmore in a char-a-banc. 8 of us.
Some of them went on to Garsdale - a lovely little
larn hidden away in the mountains - coming
back we found many foxgloves -

June 10th More rain & more more.

June 11th Went to Bowness & back by steamer. but
there were no natural history specimens there
except human ones.

June 12th Scrambled about Lough Rigg trying
to photograph the sheep there. Brought home
parsley fern - pink primroses & butterwort.

June 13th Went to Sweden

Bridge by the beck.

Jumping over the stones.

We found lovely meadows

Crane's bill growing in

profuse clumps by the stream

& farther on the finest
globe flowers I have seen.

Farther still & on the boggy

banks very fine mountain

primroses, & butter-cups as

well as purple orchids and

many butterflies - meadow-brooms

putillanes, orange-tips etc.

We soon arrived at Scandale Bottoms
which runs into Sheep-folds.

It is a very lonely desolate place

hemmed in on either side by

hugged mountains devoid of heath

& bounded at the end by Dove Crags.

There was no sound but the

bleating of many sheep & the

rippling of the different streams

that unite to form the Scandale Beck.

We scrambled over Dove Crags

with great difficulty - it was

very lonely on the top & we tried

many peaks before we came upon the Splendid valley
(that leads down to Brother's Water). On the top of the
Crags we found a great deal of crystal which we
put in our pockets. The view was so magnificent
I shall never forget it. We scrambled down

the precipitous rock which is covered with bilberry
& had some horrible unboiled Tea at the
B. Water inn.

Last coach go by

we had to trudge

Its aspect is

dreary & we were

and horses again

Amberide in the

June 14th We did not attempt

having done so much the

we managed to get as far

& came back by steamer from

It was a very hot afternoon &

poised its rays upon the wood-

glades on the slope were in flower

of them I have seen else where - The path was covered

with flowers of all kinds - primrose & columbine

among them - a few wild roses & numbers of ferns.

There were quantities of insects too, humming & buzzing

& crawling - in fact we found two small beetles on the

top of Dove Crags. As we neared Troutbeck we saw


a great deal of shining Crane's bill cleaning the

old stone walls.

22

June 13th - 1917
June 16th Pipper - work, Red roses & orange-eyed daisies
- yellow flags brought in from Terry.

Stand orchises
found near Sweden
bridge. The haps
on the banks of
Scandee River



with
 from
 from
 inter
 & on
 above
 back
 The
 near
 very
 star
Ras
 chry
 inter
 The wild

June 19th. Water - Skakso seen on the Drachay - & Captharick - flax -

Orchids 25, 11 Nov 21

June 21.51 A lovely day. Yellow lag. wart & sheep's
scabious found by Skelwith Falls.
Several ripe wild strawberries have been
brought in as great prizes for painting.

June 22 23 24 25.

Wet days on the whole
Nothing particular
brought in.

June 26. Very hot indeed.

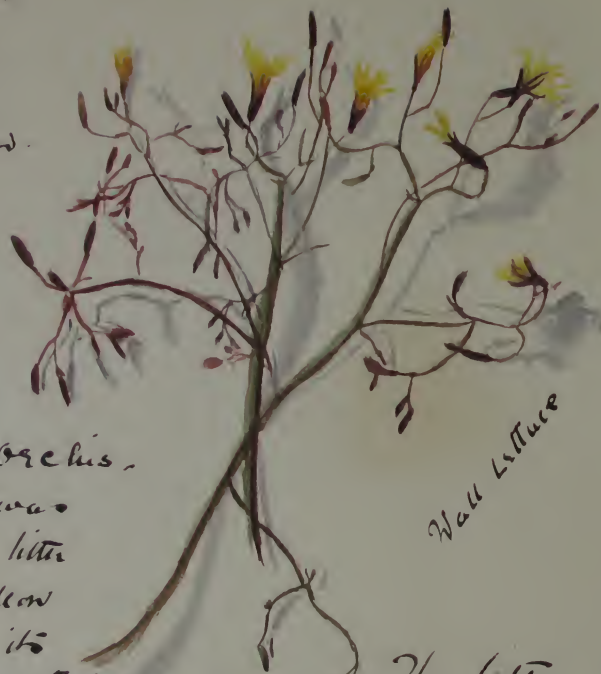
We backed in the
morning about Long
Rigg. In the first
bag we found the
pretty creamy white
Butterfly orchis &
the sweet-smelling Orchis.
The Bag asphodel was
just out, showing our little

starry yellow
flower on its
red brown stalk.

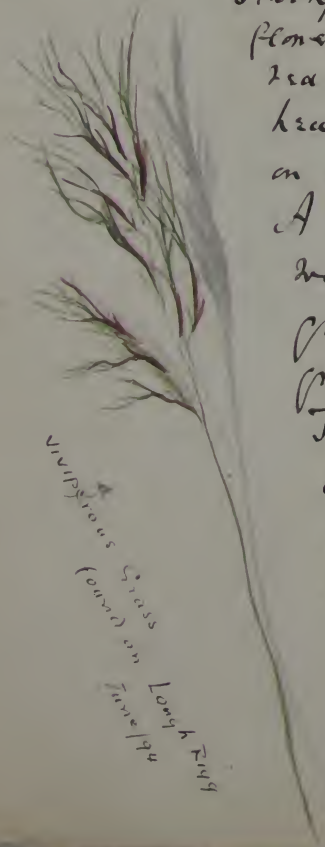
The little brown
heath butterflies had all gone to sleep
on a rush or sedge with their wings folded.
A little further up by a very tiny rivulet
we found some viviparous grass, that is
grass which has sprouted from new
grass out of its own seed upon itself.

By the edge of the lake we saw quantities
of sundew & one plant was busy eating
a little heath moth struggling in its
clutches; a companion moth was
already dead & the ants were devouring
what the sundew could not digest.

We found the Junco Squarrosus and
I found that a sedge always has a

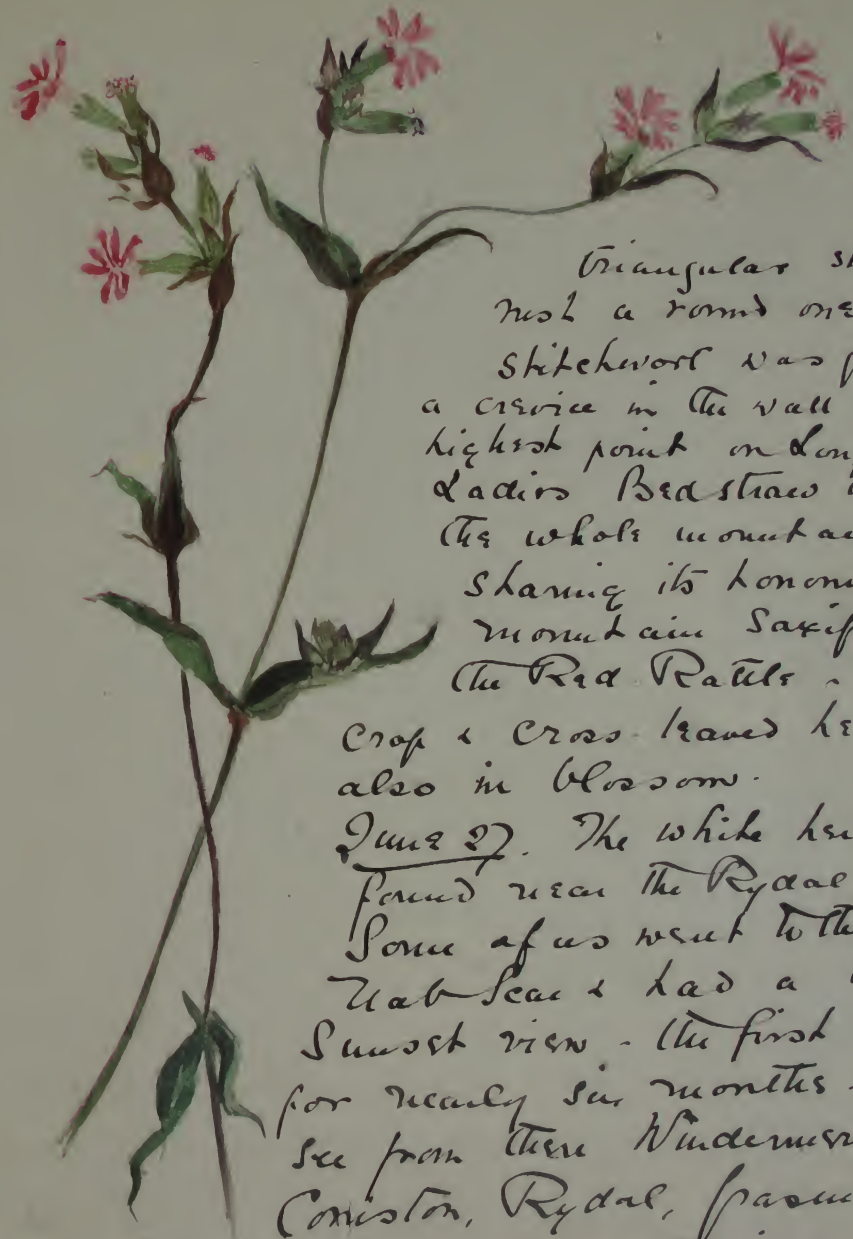


Wall lettuce



Viviparous Grass
(found on Long Rigg)

June 27 28 29



Triangular stem, & a
not a round one. The smaller
stickwort was growing in
a crevice in the wall in the
highest point on Long Rigg.
Ladies Bedstraw was carpeting
the whole mountain almost
sharing its honours with the
mountain Saxifrage and
the Red Rattle. White stem-

Crop & cross-leaved heath were
also in blossom.

June 27. The white herb Robert
found near the Rydal Falls.
Some of us went to the top of
Uab Seac & had a beautiful
Sunset view - the first I have had
for nearly six months. We could
see from there Windermere, Esthwaite,
Conistone, Rydal, Farnworth, & the

Lakes. June 29. Went out determined to find
some living objects but though we hunted
diligently in the Rothery we came back un-
rewarded. There were only water skaters to be seen.

The Water dropwort was in flower, & the Meadow Sweet. We found also more white Herb Robert growing near Fox Home - We turned over a stone & noticed the coral root of the Wood Sorrel.

July 2nd The Burnet in flower. More meadow sweet in the fields between Undermore upper & lower Roads. Figwort found growing on a wall on the lower Road.

July 3rd Upright St. John's Wort.

Campanula rotundifolia.

Here Bell

Here Harebell

July 23rd

catching from light of grass & harebell flowers. Their faintest colour is the passing breeze. No. 23rd



July 20th Drove from Ambleside to Keswick, then to the Falls of Lodore where we found the Filmy Fern growing among the stones. We noticed no new flowers on the road but the scenery is grander than any I had yet seen at the Lakes except perhaps the view from Dove Crag into the Borrowdale Water Valley. The little streams running down Helvellyn are especially pretty & the tiny simple church which stands at the foot of the

mountain at Ryelam just adds the touch of humanity which is needed to link God, Nature & Man.

The heather was out near Keswick & quantities of *Euphrasia* *nightshade* lined the road to the Falls. I shall never forget a lecture of Prof. Orders in which he told us that the *Madonna Lily* is a descendant of that insignificant little flower. The *Rock Rose* was growing a little farther on on the road to the *Roundel Stone*. We seemed to know exactly how it had got into that position - possibly in the glacial period I suppose. We walked round it & admired the lovely valley that leads into Buttermere. The men were busy below cutting down fir trees which they were evidently going to float down the stream. Coming back we made our driver stop & gather bunches of heather - it will keep a long time in water. Just before we reached ~~July 2nd~~ ^{July 2nd} ~~fraser~~ we stopped at a little wayside inn to water the horses & were entertained all the time watching the swallows in the roof - feeding their young. Two twin birds in one nest never shut their mouths at all. There was just room for their two heads in the entrance to the nest & they remained there with wide open yellow beaks all the time we stayed. Snapping them occasionally when the indefatigable parent birds brought them an insect.

21 p30 pnc 1162

July 2nd My last summer day in
Humbly Grove. As the train carried
me straight across country from
West to East I was really
delighted to lose sight of the
hills which had shut out so
much of the sky, to get into
the undulating moors &
woods of Yorkshire.

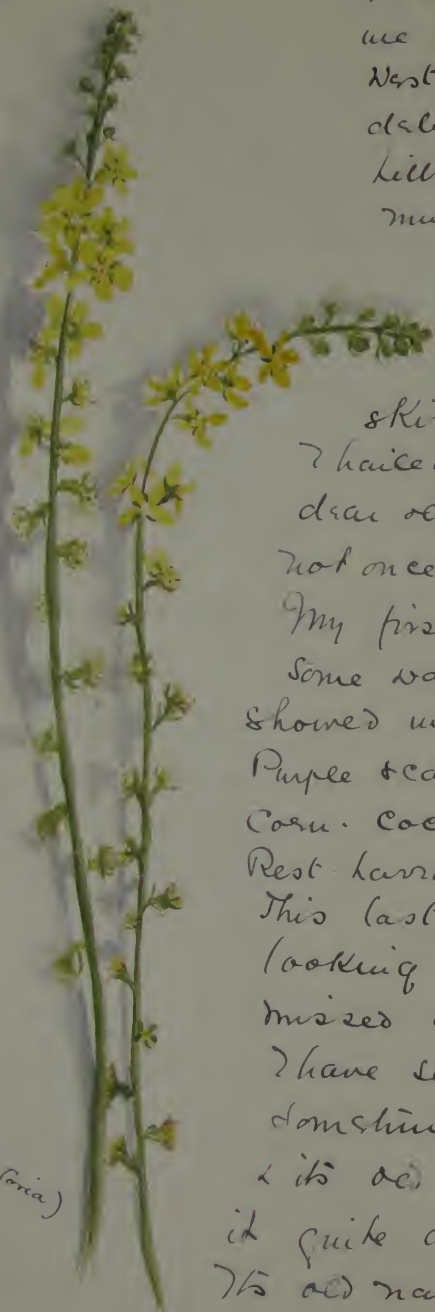
Yellow corn-fields began to
skirt the line & among them
I hailed with great pleasure the
dreaded & scarlet poppy - that I had
not once seen in Westmoreland.

My first walk on the moors

Some way between Scarborough & York
showed me quantities of new July flowers
Purple scabious, hawbells, cud-weed
Corn. Cocker, purple Campanula -
Rest-harrow - & Yarrow or millefoil.

This last tough & rather ordinary
looking plant would be surely
missed on our road. Sides for
I have seen it in the distance
sometimes like a shower of snow
& its old associations make it
quite a romantic adornment.
Its old names are the "Soldier's

"Hornedwort" & "Knight's millefoil" & many a man
used to be taken from the battle-field into the



Agrimonia.
(Agrimonia eupatoria)
Rosaceae.

21 p31 pnc 1162 29

monastery to have his wounds dressed by yarrow-outroot.
The Corn. Cocker seems to be exceedingly common in
Yorkshire - the long green spikes of its calyx make
it very beautiful.

The lesser bindweed
(Convolvulus arvensis)
was very plentiful in
the loose sandy parts
& must give much trouble
to the farmers from the
way in which it lightly
envelops the corn stalks.

The late white campion
(Adonis vernalis) was
beginning to seed - but some
blossoms were still very sweet.
& the scorpion grass or field
mouse-ear with its little
living blue eggs was creeping
among the furrows.

The Corn-mint with its delicious
scent, Wild-carrot (Bird's nest)
& Common Chickweed & ripe's hogloss

were all plentiful - though probably hardly
welcome to the agriculturist. & the clean little
scarlet pimpernel was there to tell me the weather
once more. This bright little plant with its yellow
anthers was much used once upon a time by ancient
herbers. Over the moors the fine-leaved heath
(Erica cinerea), bearing its bells in clusters at the top



Hairy Mint
(Mentha Aquatica)
Labiatae.

of the skuderskin, was coming into blossom & the bee-keepers were beginning to think about taking their hives from the valleys to get the rich meadow honey.

"Those wastes of heath

Stretching for miles to lure the bee
Where the wild bird on pinions strong
Wheels round & pours his piping song.

And timid creatures wander free.

The bird feeds on the young shoots & seeds of the heath but man makes from it ropes & in the Helvides bundles of heath stems are laid across the stream, & held down by stones with the top of the heath towards the current forming a net towards which the islanders drive their prey of fish. There are five kinds of heath - there are 4000 species.

July 22 - 31st I have been out for several weeks this week

and find that the same flowers repeat themselves in most of this district. In a glen on the way to

the moors the white honeysuckle

was in full flower clambering

heavily over tall bushes

& completely covering them.

The water forget-me-not &

willow-herb was growing

on the banks of the

streams we passed.

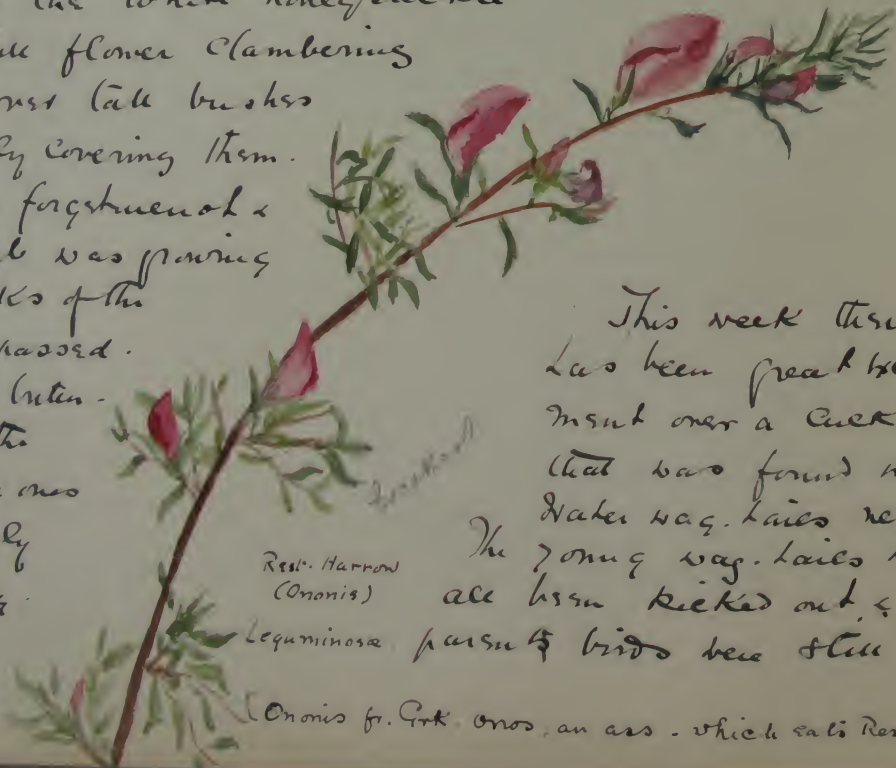
I saw no inter-

flora but the

little blue ones

& there only

occasionally.



Rest. Harrow
(Ononis)

Leguminosae

[Ononis fr. Gort. Onos, an ass - which calls Rest. Harrow]

This week there
has been great becke-

ment over a Cuckoo

that was found in a

water bag. Laid rest.

The young was. Laid had

all been kicked out & the

young birds were still



Sea-lavender (Statice)
Plumbaginaceae

feeding the insects under the impression that he was them.

The bird had grown quite fat & big & looked very much like a young hawk. He puffed himself up beautifully when we traced

him ruffling all his feathers & looking as if he would annihilate us if he could. He had an enormous appetite requiring to be

fed on land. boiled egg or meat every half hour. If we forget

he chirps miserably.

July 30th Sunday. I went for a little stroll & brought home thirty specimens of flowers. The white campion & poppies grow very fine here even by the roadside.

I can gather the most lovely bunch in ten minutes.

Aug 1st Seen again - on Thursday. I feel quite sorry to see how autumnal everything looks already. The fields are half

emptied of corn & all the wild flowers have lost their first beauty & look worn-out. The meadows however are perhaps at their best - being covered

with great patches of sea-lavender
The clusters of pale lilac flowers
accord well with the rather sad tints
of an East Coast tidal river.

Aug. The Sea-starwort is just coming
into blossom - it looks very much
like the Michaelmas Daisy but
29. not so fine. I spent several hours
on the marshes this morning.
The tide was just going down
leaving everything damp & smelling
of salt. I sat on the sea-wall
in the hot-sunshine & listened
to thousands of grasshoppers in
the coarse grass. On one side of
me was the river stretching away
into the sea - on the other the re-
claimed salttings - covered with tiny
sea-flowers - glass-wort etc. growing on
the edges of the
stagnant f
of water -

mixture of
fresh & salt;

& visited by

flocks of rooks & sea-
gulls. Hundreds of little

blue & brown butterflies were

flitting about quite tame & so

that I could easily have caught them

Too bad to show.

Per

& every now & then a handsome
frithillary dashed by. The Red
Admirals seem to frequent gardens
more than the marshes. I only
saw one peacock.

The ditches on the way home were
bordered with ~~very~~ very fine yellow
load-flax & willow herb, growing
among the black-berry bushes
& hips & haws. Moor-hens & water-rats are very
commonly met with here - ~~which~~ & when I was
sailing last week I noticed two herons & some
wild duck. I have often seen the latter flying
over our house.

Sep. I. Partridge shooting. The birds are very plentiful
this year & do not seem wild. We picnicked under
the elms by the side of a creek of the river & went
home laden with the poor little dead birds.

The Blackberries are still all red & green.

Sep. 4th Today we had another picnic under the oak trees
that grow by the river & amongst quantities of
gorse bushes & brambles. The gorse is very easy
to pull out of the ground & makes capital firewood
if it is dead & dry. The yellow load-flax grows
among it to the height of five or six feet & a
little pink flower of which I have not yet found
out the name, grows so profusely in many places
that it forms quite a mat. The periwinkle is
very plentiful there too. We made a lovely gypsy
fire & had big apple puffs & tea & cake.



From Ifacombe
Exidece



Scutellaria
from the garden

Seen flitting about the meadows



Scutellaria

I found several kinds of
mint but cannot yet dis-
tinguish them.

Sep. 6 - 20th We have all been
astonished this year at the
numbers of big "Daddy long legs".
Just outside our gate in the short
coarse sea grass there are millions.
The ground is alive with them
& so it is everywhere in the meadows.
The grass-hoppers too seem much more
numerous than usual & there are thou-
sands of small heath butterflies - and
Red Admirals. I have noticed the

latter frequent the dahlias & mulberry
tree & seem altogether much more at home
among cultivated flowers than the small
inconspicuous butterflies. Possibly they
feel more fitted in their gorgeous raiment.
The tamarisk is just coming out in all
its glory. I do not know that this is a native
wild flower or whether as some say it has been

[Chicory is cultivated as a salad
but more frequently for the sake
of its roots which are roasted
& mixed with ground coffee.
Endive is a kind of Chicory.]

introduced from Germany
but at any rate it takes
kindly to English soil &
has done so for many
years for in
Brown's Pastoral

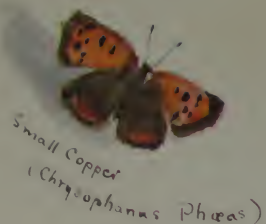
We find
"Among the
rest the tamarisk
there stood.
For husband's
becomes only known
most good"
for it used to be used
for broom-making.
It is sometimes known
as the sea-cypress

"You rough crag
Where the wild tamarisk whistles
to the blast.
The swallows ought to have all
gone by now. but I saw some
today (Sep. 20th) Yesterday a robin
perched on the garden chair next to
mine & gave me a song.



(Cichorium Intybus)
Wild Chicory or Succory
N.O. Compositae
Picked on Hampden Road
at a picnic 9/6/07

il p38 pneu162

Small Copper
(Chrysophanus Phreos)Small Heath
(Canyonympha Pamphilus)Small Skipper
(Pamphila Linea)Meadow Brown
(Hipparchia Janira)
This post thing was a corpse

From memory badly done
on the Essex marshes]

Oct. 1. At Ambleside again. The country looks lovely in its autumn aspect. In the morning it is very cold & misty - almost foggy. Later on the sun bursts out & makes every thing warm & well. Fairfield Basin is more beautiful than ever. Many flowers are still in bloom here that have finished flowering in Essex; honey-suckle, stitchwort the lesser, golden Rod, Water Dropwort, Brooklime, moneywort red campion, striped Veronica, wild mint, ox-eyed daisy, burnet, Wood betony - yellow balsam & ladies mantle - The leaves of the latter have turned a lovely green red.

Oct 2nd Today we scrambled about the rock & found a good many fruits. The big Hog. weed, the angelica - the latter can be distinguished by its dark red stem - smooth near the root.

il p39 pneu162

39

The few remaining blossoms were of a beautiful delicate white & pink. The cut-weed was in flower - but it has to be closely inspected to be appreciated - & I found numbers of sweet sheep's scabion as well as Devil's bit - The freder-

Rose berries were very juicy & bright & I picked quantities of long spray of haddock. We found specimens of the lady, male & mountain lark ferns.

Oct 3rd Several of us went for a long walk on Long Tigg Terrace. Rydal Lake was looking as calm & still as in last Good Friday & Halscar was most beautifully reflected in it. As we approached the corner that leads to the first "Rest" (be thankful) seat, we found



The ivy-leaved Toad-flax belongs to the same order but looks very different - being a little creeping violet flower.

Yellow Toad-flax. Scrophulariaceae

a delicious mossy bog covered with the Grass
of Parnassus.

flower
and stamens
golden
from the
species

It is a
moist bog
of the Mts
of Russian Asia.

The Box Asphodel
of such lovely
deep red or
green so
one clump
pine forest.

The Starry Saxifrage
were to be found in
Just as we turned
of Crasmen resting
be in the protecting
view & away in the
trace the road to Kes.

through the hills between the "lion & the lamb" on the left
& Great Sandal on the right. They were beginning to

It was the first time I
had seen the little delicate
with its dark-veined petals
commonly called the Snow
Candlesticks. It is so called
myth that the most beautiful
were found in Parnassus.

native of the
of Britain.

of S. Europe

We also found

in seed and mosses

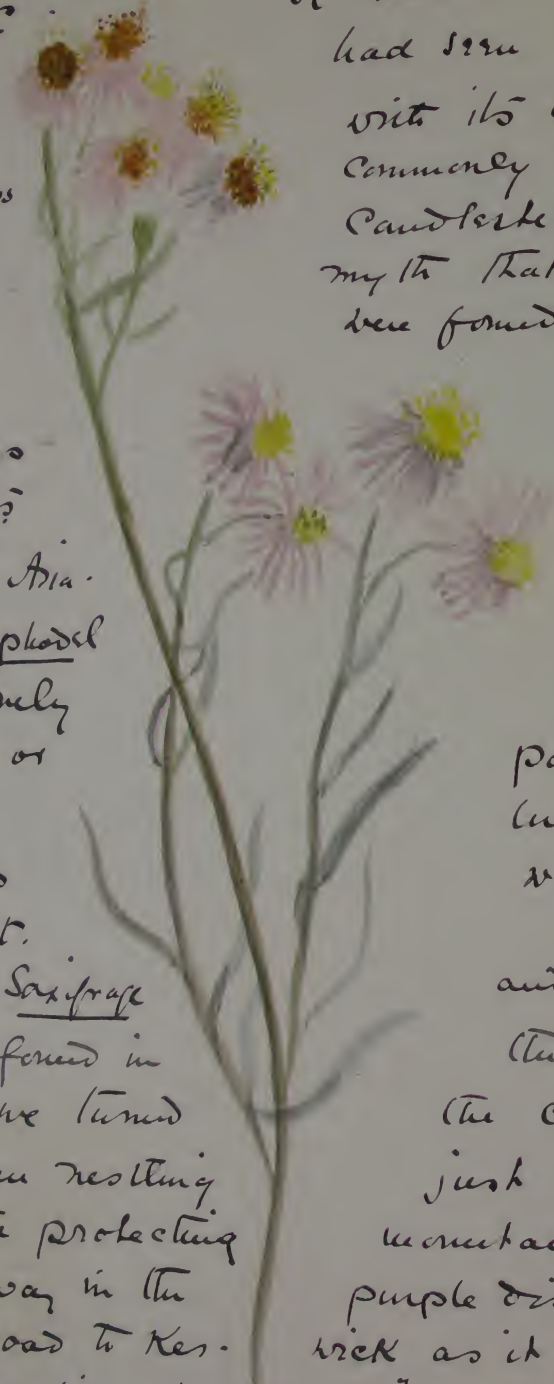
Colours, a bright
pale green - & they
luxuriantly that
was like a miniature

and the Cotton Grass

the same bog.

The coast the Lake
just where it ought to
mountain's bush upon our
purple distance we could
wick as it winds upwards

between the "lion & the lamb" on the left
& Great Sandal on the right. They were beginning to



turn the yellow tracken then already & we could
see a blue column of smoke winding away in the
still autumn air. On our homeward way we

passed one of the prettiest
little cottages I have seen about
here. It was white-washed
standing a little way up
the hill, commanding an
exquisite view over the
Langdales. Its little garden
on the slope was crowded
with a luxuriant growth of
old-fashioned flowers - dahlias,

red, purple & yellow, tall white & magenta phlox
and low & then a pale faintly purple coloured
hydrangea - such plants as are only seen as
a rule in the "un-gardened" part of a fashionable
garden & which had grown so tall during the
damp weather that they almost blocked the
lower parts of the windows.

Oct 4th Our long walk yesterday had
tired us a little & we only
went to Windermere today
& gathered Figwort seed
& enjoyed the view of the
Langdales. I always like
them best from Windermere



Orange
Saxifrage

21 p 42 p m 162

40



Oct 6th Scrambled about in the fields behind Springfield in search of acorns. It is very odd, but we could only find two (though we looked most carefully) oak. These are plentiful. We were fortunate in finding two beech-nuts nestling inside their little downy bracts, which are as soft as silk. We saw a kind of Michaelmas Daisy growing on both sides of the Rothay just before Peeler Bridge is reached - but I fear

it must have been only a variegated form from some lady's garden for the Bohemian books say the Sea Star-wort is the only wild Michaelmas Daisy we have. We brought in some lovely yellow bracken leaves, red brambles & pig-wort & Miss Hadger brought us in the afternoon some Canary seed to plant which I have put on the opposite page. The little moss or fungus that is on the back of this was found by one of the children. I have not yet found out its name & its history.

Oct. 7th The air seemed rather oppressive today so we only walked to the piece of ground above Stock

21 p 43 p m 162 41

Chyll, but on the way I picked the yellow Balsam for the first time, as it is a rare plant only growing in mountainous districts. I was very pleased to see it. There was a great deal of it growing under the wall & my companion pulled it up to show me the

nodey root
leaf joint.
the flower.
the midrib
the middle
leaf an inch
yellow flowers -
Nettle - The other

crag & found many several of which
Bedstraw, Persecaria,
The Water Figwort, Ribwort
Red campion, Harebell,
Aven, Wall lettuce, ivy -
Poppy, Golden rod - Scabious
Ragwort & Marsh Ragwort, blackberry, angelica &
Hag-weed. I meet almost daily in my walks.

8th Today 22nd wild raspberries were brought in - such fine ones from the fields by the Rothay.

& the nodes that swell at each
The flowers grow very curiously
stalk running along & underneath
of the leaf until it reaches
of the leaf where it drops about
& grows at the end the pretty
I also found the white Hemp
shed rats went to Trukey's
flowers still blossoming.
I have not yet seen ^{here} any.

Mistlewort -
wort Plantain, Knapweed,
Hawkweed, Saff. heal,
leaved toad-flax, Welsh
Devil's bit & Shepherd's
blackberry, angelica &
Hag-weed. I meet almost daily in my walks.

an enormous Lady's mantle leaf that the autumn had painted all sorts of gorgeous colours - leaving it its original summer green round the edge & flaming into yellows & reds towards the base. The vases are crowded with bracken, hips & haws, blackberries & raspberries - a yellow poppy here & a violet knapweed there, blending with others & forming a perfect feast for the eye to regale itself upon -

11th. Today I went to Rydal Terrace. It was such a very still, sunny, misty autumn day that we thought it a pity to spoil the harmony of nature by hurrying. So we sat down on some stones on Wal-Isle & looked at the lake. It was dreamier than I have ever seen it - & the ^{reflection} of the mountain & the trees clearer than the realities.

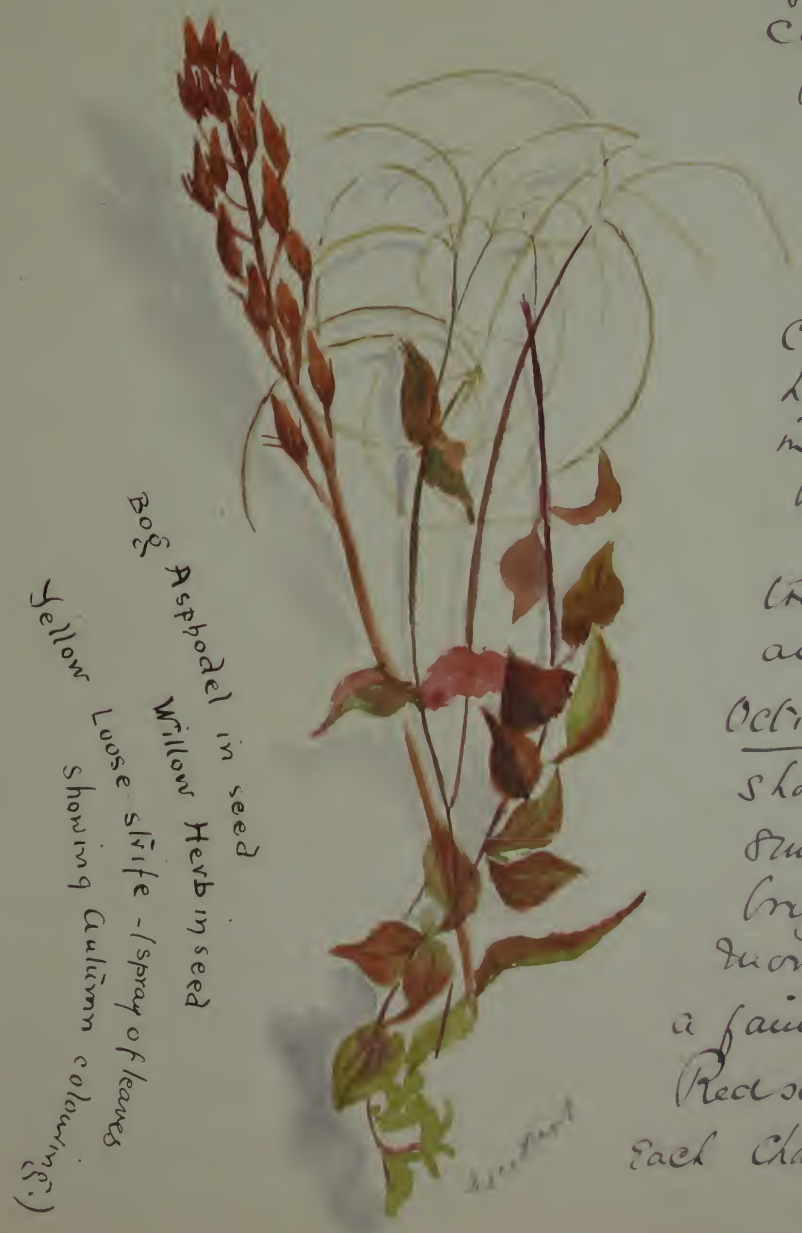
We only picked bracken & Bird Cherry. The latter has the most wonderful colouring I could not help trying to paint it - (see next page.) because we never see it in the South. but I cannot manage to show the pinky-red of the leaves when the sun shines through them - nor the graceful droop of the whole tree shedding showers of its beauties with the slightest breath. The Bird Cherry near Miln Bridge is most disappointing. It is as green as grass still & shows no sign of changing.

12 Oct. Went to see how Windermere looked in the Autumn - Another typical day - all the mountains draped in clouds dark at the top & lighter as they rolled gradually down - softening all the beautiful colouring below - The sun

sent a shaft of light between two clouds across the very still lake & we saw the water shimmering & glistening.

Oct 15. It is much colder. The wind has been very busy in the night & has blown quantities of leaves off the trees. Some branches are already bare.

Oct 16th. Still cold & stormy. but the sun gleams very brightly most of the morning. We saw a faint rainbow on Red Tarn today - & each change of the clouds



Bog Asphodel in seed
Willow Herb in seed
Yellow Loose strife - (spray of leaves showing autumn colouring.)

ip46pneu162



Picked from a tree on
Nabe Scar -

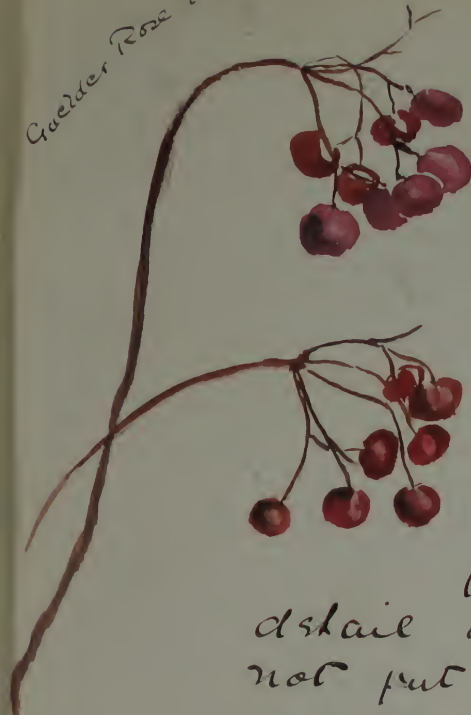
Wild Cherry leaves
in October.
L. S. 1891

ip47pneu163

behind & over the mountains seems to make
a grander picture than the last. We walked
below Jenkins Crag today & two very fine
strawberries were found - I saw a little weak
looking harebell - it had the same helpless
look about it that the wasps have just now.
Some red Campions were lingering about,
Wood betony, herb Robert, white hump uestee,
Self heal were all still in flowers. I picked
a handful of seeds. The mountain - sage, the
legumes of the ~~gorse~~ broom, the pretty curly
Willow - herb, the hump dead - uestee - The
purple loose - strife - the golden rod with little
fluffy balls of pappus - a very cheap little
Water ament seed showing its little hooks
& that is all. One stumpy little oak - tree
was bearing quantities of spangle - galls -
as well as two Cherry galls & an oak - apple.
Coming back to Kilsick we found bunches
of the American haw - thorn in fruit, but of course
that is not indigenous. I forgot to say the
Meadow - sweet was still out - & I do like its
little curly fruits - but I fear they are too difficult
to paint. The Knapweed fruit I brought as well
& the capsules of the Campion - that are shaped
so prettily.



Marsh Ragwort & Seed
Silky Scent Grass



Perhaps it is the facet of the
Murray Rhyme. ~~Some~~ ~~to~~ that one never can help taking
the part of the fly when one sees it
in the clutches of a spider. I
was quite pleased when Miss Gilbert
poked up a pretty yellow & brown
one with a twig & made him release
his load. We were walking by
the Bracharay & had collected
about 30 fruits in half an hour
but as they will all be found in
detail at the end of the book I will
not put them here. The brook line, buttercup
& son. thistle were in flower, but their heads
were hanging rather forlornly. I found some
pretty clumps of lily on the rocks in the
stream. but the pink clusters of flowers had
turned quite crisp & dry. Coming home we
searched under the beech trees at Croft for
snail's shells & were rewarded by finding one
tiny laminated shell, too small to paint, & one
tiny round flat shell that looked as if it might
belong to the hairy species. The resting buds
had already formed in the axils of the leaves
of the trees & if this extremely close reaction
continues I should not wonder if they are
deceived into thinking spring has come again.

21 p 50 p 1162

A Raspberry leaf &
the fruit of the Rose.



Nov. 2. My diary has been
away on a visit so there
will be a fortnight's
space between this note
& my last - a space
that a little lines of
poetry however
might well
have filled.

"Raindrops
patter on
the rocks."

'Drearly fall the showers
'Lifeless droop the broken stalks
'Over the scattered flowers."

This added to the misty night caps on the mountains
is the strong fleckleside for very nearly 14 days.
The Stock is raging like a miniature Tiber & looks
quite laamy. Some of the students went to see the Falls
yesterday & said they had never been so fine this year.
I shall try today - but probably the best will be over.
Springfield garden has a little lake in the middle of it
& the fields beyond are flooded. I do not know where
all the birds are. but 6 robins & a wagtail or two
are about all I have noticed going to & fro.

21p51p121162

Nov. 7th

They are
described.
The sycamore
over the stock
had two little
green leaves
on it today -
new ones & the
whole tree looks
quite ready



to burst into its summer garb at a day's
notice. There are spindle berries above - quantities
of them were found this week going to Tunkys
Crag. The fruit remained long after the leaves had
fallen. It is most pretty & interesting - & will make
an important addition to the list of autumn fruits
described further on - but I found them most difficult
to paint & fear they hardly look like what they are.

Nov. 9th. Walked to Rydal in the softest rain -
The grasses all dead & drooping on the edge of the
stone walls were glistening like diamonds with millions
of rain drops - the tall dead mosses & reeds & weed
made beautiful straight sprays behind. I thought some
of them in to paint but they are not so pretty out of the rain.

21p52p121162
49

Nov. 10th

An exquisite day.

I am now off
to find something
fresh - In the
little coppice
to the left of
Stall Gill I
found blackberry
leaves still

quite green &
quite big bunches
of blackberries.

also a strong
intercrop that might
have belonged to the
Spring & two pink
campions. I heard
that primroses were
seen today in some
gardens & the lilac buds
are growing quite green -
The robins look very
lumpy & pugnacious - the
hen is quite chirpy.

I noticed two large herons flying
in a slow stately way over Rydal,
their wings showing distinctly against
a deep stormy looking cloud.



The Wild Plum
Nov. 10th

21 p 2 p m 1872

Nov. 20. Went to Norwood.
It was a lovely afternoon
after the recent rain
the path was in most
places through the wood
an inch deep in water -
We found several lovely
red in leaves. A spindle
bush were lingering
on the trees. The wood
Blossom & Camellia were
still in flower - The leaves
of the Sycamore were
hanging damp & brown
on the bare boughs &
the hips & haws were
turning a dark red -
some already quite black.

Nov. 28th Nature seems to
have been very quiet lately.
Nothing is stirring except perhaps the birds - but it
is so mild that even they do not seem disposed
to their usual winter formalities - The Chaffinches
& Robins come to our window - (if we put crumbs out)



Golden Rod in seed.

21 p 2 p m 1872

Caught in Brit. Guiana



The blue-bits
are very noisy
in the front garden.
Also the owls are
busy at night.
Today we went
up the Kirk-stone
Pass road. It is
between two stone
bales so there is

not fired for much
investigation by the road-side
but we studied the trees above
our heads. The resting-places of

the whelken, oak, chestnut & sycamore - are all
quite different in character - but require pictorial
illustration which I hope to give at some future
time. The hair-grass was growing on the wall -
but I was surprised to find it had a name.
Somehow one passes those common things so
often that one forgets they can be in a botany
book. The Fescue grass was another common grass
that I had not heard named before. In a larch
tree we found a big larch gall that looked from
below like a squirrel's nest. I think these galls
are most curious & difficult. The larch trees near
Eller water looked quite tortured.

Natural History Notes.

21 p55pneu162

Mammals (from a Latin word meaning the organ that gives milk), are animals that give suck to their young. Many are now extinct in the British Isles, but there is a large number left though these are comparatively small.

The Fox & badger are the largest - the others are Bats, hedgehogs, rats, voles, stoats, weasels, hares, rabbits, moles, shrew-mice, mice, otters, martins, squirrels ^{& how about Red Deer} & ^{Shillingham} ~~Satellite~~.

Bats There are from fifteen to twenty species of natural bats. The Common Bat & the Great Bat are those most generally known.

If these are carefully examined it will be seen that there is considerable difference in the appearance, but not in the structure. The wide mouth, tiny sharp teeth, & wide-spreading wings are alike. The Wings are stretched out like hands joined by a thin fine skin. The thumb is furnished with a hook; the toes are free & have also hooks to enable the bat to hang head downwards. The ears are large & sensitive.

The inner ear or tragus only is exposed when resting

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the outer ear being turned back & laid flat upon the head. The bat is eminently fitted for doing in the evening what the bird does during the day - viz. to clear the air from insects. At night innumerable tiny moths come out, so small that they are called the micro-lepidoptera, & so numerous that they have been known to devour whole trees. These are easily snapped up by the bat, & form its chief food.

The large bat eats larger food e.g. beetles & cockchafers.

The young ones are born singly or in pairs. At first they cling to the mother, but they soon learn to fly. They are born naked & much resemble young mice.

The large Bat is called the Noctule. The one shown in illustration was found caught in a branch by the edge of a pond where it had evidently come to drink.

The Small Bat - Pipistrellus was found hanging dead & dry in the corner of a barn.

The haunts of bats are barns, old toy, down trees & almost any out of the way corner.

The shrill cry is sometimes pitched so high that it is not easy to hear it.

The wings of the large bat measure about 16 inches across. Others kinds of bats are

Long-eared Bats

Long-eared

Barbastelle

Distribution



NOCTURNE

Hedgehogs

In Lincolnshire the hedgehog is called the prickly urchin, possibly from the Lat. *erniacens*.

In Devon: it is the apibac or hedgeboar.

It is also known in some places as the Vusspeg or Furze-pig. The upper part of the head descends

projects over the lower in the same way as a pig's snout. Hawks, large owls & falcons attack hedgehogs piercing the prickles & killing them through the head.

The long snout is of great use in grubbing for food e.g. worms, wood-lice, cock. chafers, frogs etc.

When first frightened the hedgehog will run for cover, but if there is none to be found it will roll itself up, by drawing the loose skin of its neck over its head like a hood. This makes the prickles stand upright, instead of lying smoothed down towards the tail. Each spine is bent slightly at the end nearest the skin & is fastened into the skin by a

little knob resembling a pin's head, so that it is impossible to pull it out. The claws are very sharp enabling it to climb up trees & walls. When it reaches the top of a wall, it curls itself up & falls the prickles preventing any injury. The hedgehog is a hibernating animal. It lays up no store of food, but goes to sleep about the end of September.

Rats

The English black rat has almost been exterminated by the brown Norwegian rat, when most naturalists however think has travelled in ships from Russia. The female rat has a family of 13 or 14 about three times a year; these again have families in six or seven weeks. Lincolnshire used to be so infested that they were killed & carried away in tumbril loads. The mother makes a nest of soft wool or hay for its little ones & when disturbed will carry them away in its mouth as a cat does. They are very careful of their old & feeble if provisions are plentiful, if scarce the strong fall upon the weak & kill them. Rats are remarkably clean animals. They have been seen to go down to the ponds & there wash & comb themselves. It is a fact that if a stack is taken possession of by mice, rats will not go there - this may possibly be because the mice are so much dirtier.

Rats frequently migrate in large companies, going from one neighbouring farm to another. The teeth, like those of the rabbit, continue growing from the root - if the companion tooth in the upper or lower jaw be lost, its fellow will go on growing & gradually cause death, unless it becomes fixed outwards. Rat traps should be set in the run of the rats. A good trap is a tub half full of water with a balancing lid. The rat will run over it, fall in & be drowned. This is one of the most painless ways of killing it, but it is better to have a good ratting dog - they grip the animal by the back of the neck & death follows instantly.

Vole. This little animal is commonly & wrongly called the water-rat. It is very dark brown, almost black above, white underneath. It has a short tail, long body & blunt nose; it may be briefly described as something between a rat & a mouse. The teeth do not interlock & the jaws move to & fro showing that it belongs to the gnawing & nibbling family (*Rodentia*). There are two kinds of voles - one the semi-aquatic, one the land vole. They feed upon vegetable food. The field vole (*Arvicola agrestis*) burrows under the soil for the newly sown corn, & in the winter inhabits hedges & barns for the same purpose. For this reason it is a great enemy to the farmer & its increase is due to the destruction of owls. It has been ^{found} that every owl is worth £5 to the nation for destroying animals like voles. In the spring of 1876 Wall district

between England & Scotland, which is used for grazing ground, for sheep was completely destroyed by voles.

The shepherds destroyed as many as they could but were unable to diminish them sensibly.

Water Vole (*Arvicola amphibius*) - This is often called the water rat. It is only a vegetarian as is shown by its teeth. It feeds on aquatic plants and can masticate the bark of the common rush. The flimsy cuticle is not nutritious but it enables them to keep down their teeth. The water vole is found near clear streams & their banks may be seen full of the holes which it has tunnelled. In many ways it is nearly allied to the beaver. It is an underground dweller & a complaint against it is that it weakens the banks of the streams. This may be true but it is otherwise very harmless.

Common Weasel. The weasel is gifted with a little snake-like body, a long powerful neck & very sharp teeth. It eats animals as large in comparison to itself as an elephant is to a dog. It has even been known to attack man & always flies at the throat of its opponent. The skull of a rabbit which has been killed by a weasel will be seen on examination to be bored with two tiny holes. The weasel can spring to a great distance & can climb easily. Its bite is fierce & deep & five or six weasels uniting will easily overcome their prey. It eats various animals, chiefly mice, for which the farmer is very grateful to it, but it also carries off an occasional

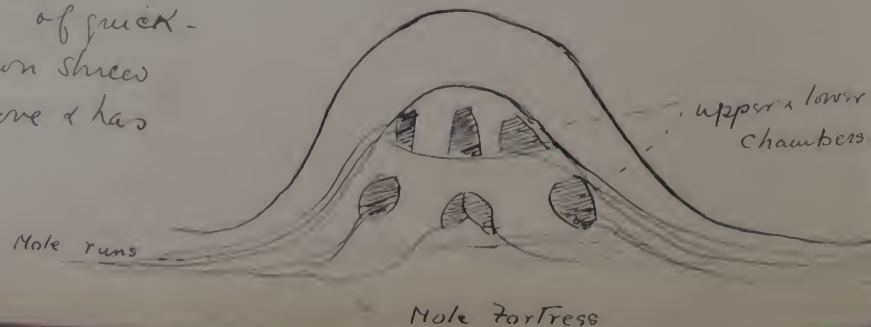
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chicken, duckling or pheasant. It is a great hunter, hunting its prey with eyes, ears & nose & if it loses its scent it quarters like a dog. Its dwellings make the holes in hedges which in Suffolk are called "smies". It has been tamed but the wild odour it exudes is a great disadvantage. The weasel belongs to the same tribe as the Pole-cat, ferret, marten & stoat.

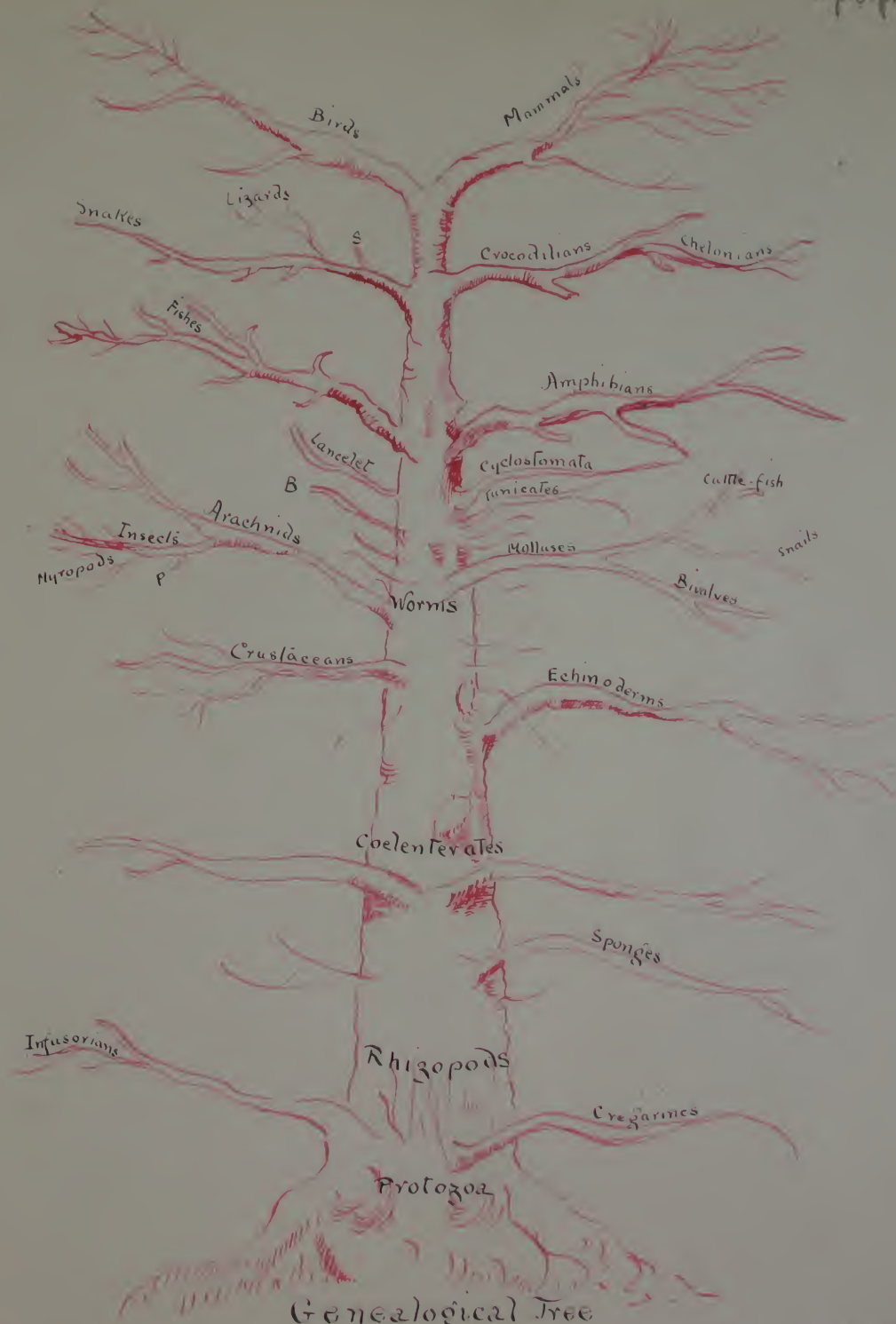
Moles.

Moles belong to the insectivorous mammals with shrews & hedgehogs. They all have pointed teeth something like the caninora & feed upon worms, grubs & insects. The fortress is generally under a hollow tree or some place of that description. It is probably used by the moles as a place of defence. Mole hills are not the nests of moles, but are heaps of earth thrown up by them as they hunt for worms. The lower gallery of the fortress has five passages leading into the upper & smaller one & the latter communicates with the central chamber by three tunnels. As a rule the burrows run horizontally near the surface, but this depends upon the movements of the worm. In very cold or dry seasons the mole would have to dig deeper. The skin of the mole's skull is very tough with two large bones on each side.

The Common Shrew may be known by its very long snout, long body & short legs. In dry weather shrews may be seen lying about dead all over the fields - The cause of this is a dispeled point. It usually has a family of about 6 in little nests of grasses & leaves. The water shrew is very pretty & looks when moving about like a living mass of quick-silver. The common shrew is very dark above & has a white breast.



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Genealogical Tree

The small classes in the centre indicate the classes of worms. The letters B, P, S indicate the positions of Peripatus, Balanoglossus, Sphenodon or Hatteria respectively.

Sea-side Objects.

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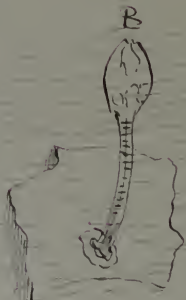
Hanging to the pinnate shaped sea-weeds rarely increased by the tide.

The Briny Ocean

I



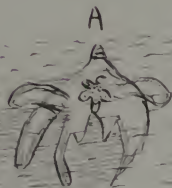
Infancy of feather star
A The jelly animal swimming with its lashes.



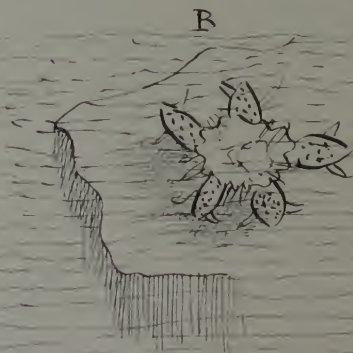
B Fixed animal from which the feather star afterwards breaks off.

II

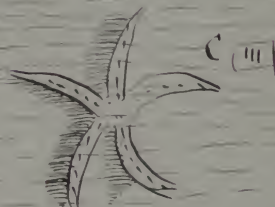
Infancy of Brittle Star.



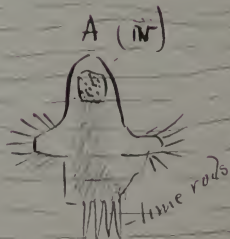
A. Jelly star animal while star fish forms inside.



B. The young brittle star settled on a rock.



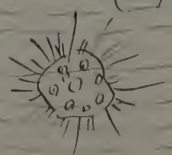
C (III)



A (IV)



B (IV)



A (III)



B (III)



III. Common Star fish

A. Jelly animal

B.

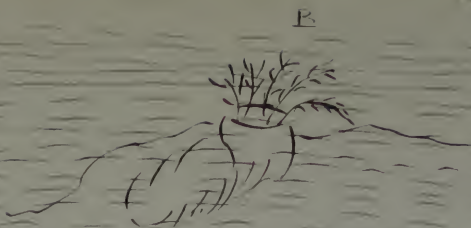
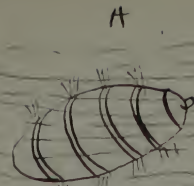
C. Common Star fish

IV. A. Jelly animal with lime rods.
B. Young sea urchin.

V.

A. Jelly animal

B. Young Cucumbers



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Tribe 1. Senaculina



Oonops pulcher (length $\frac{1}{2}$ inch)
Fam. Dysderidae



Pholcus phidippioides
Fam. Theridiidae Tribe 2

If you wish to live & thrive
Like a spider you must

Tribe 2. Oelenoculina

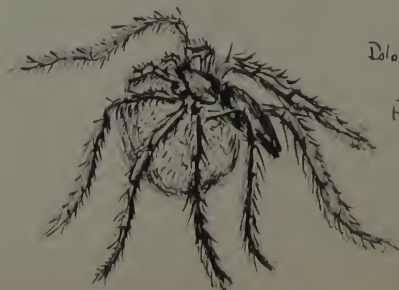


Epeira diadema
Fam. Epeiridae



Agetena labyrinthica
Fam. Agelenidae Tribe 2

Tribe 2.



Dolomedes mirabilis
Female with egg (enlarged)